

CLAIMS

What is claimed and desired to be secured by Letters Patent is as follows:

1. An apparatus for operating first and second commodity trailer hopper trap doors, comprising:

a support frame extending between a first end and a second end;

first and second driveshaft assemblies rotatably connected to said support frame proximate said first and second ends, respectively, wherein said first and second driveshaft assemblies are configured to be coupled to said first and second commodity trailer hopper trap doors, respectively;

a single motor assembly attached to said support frame; and

first and second linking mechanisms coupled between said motor assembly and said first and second driveshaft assemblies, respectively;

wherein said motor assembly is operable to move said first and second linking mechanisms to thereby rotate said first and second driveshaft assemblies, respectively, and thereby operate said first and second commodity trailer hopper trap doors, respectively.

2. The apparatus of claim 1, wherein said apparatus further comprises first and second engagement mechanisms operable to couple said first and second linking mechanisms, respectively, to said first and second driveshaft assemblies, respectively.

3. The apparatus of claim 2, wherein said first driveshaft assembly comprises a driveshaft and a drive hub fixedly connected thereto.

4. The apparatus of claim 3, wherein said first engagement mechanism comprises a drive sprocket rotatably mounted on said driveshaft and operably engaged by said first linking mechanism to said motor assembly, wherein said drive sprocket comprises an aperture and an engagement pin for removable placement within said aperture, and wherein said placed engagement pin rotates with said drive sprocket and engages said drive hub to thereby rotate said first driveshaft assembly.

5. The apparatus of claim 4, wherein said motor assembly comprises a motor shaft and first and second motor sprockets fixedly connected thereto.

6. The apparatus of claim 5, wherein said first linking mechanism comprises a chain coupled between said first motor sprocket and said drive sprocket.

7. The apparatus of claim 6, wherein said second driveshaft assembly has the same structure as said first driveshaft assembly, and said second engagement mechanism has the same structure as said first engagement mechanism.

8. The apparatus of claim 1, wherein said support frame comprises a center portion and first and second extensions telescopically connected thereto.

9. The apparatus of claim 8, wherein said motor assembly is connected to said center portion and wherein said first and second driveshaft assemblies are rotatably connected to said first and second extensions, respectively.

10. The apparatus of claim 9, wherein a distance between said first and second driveshaft assemblies may be adjusted by telescoping said first and second extensions relative to said center portion.

11. The apparatus of claim 1, wherein said first driveshaft assembly comprises a lobed handle coupled to said first driveshaft assembly for allowing manual rotation of said first driveshaft assembly.

12. The apparatus of claim 8, wherein said center portion of said support frame comprises first and second support bars that engage and maintain tension on said first and second linking mechanisms, respectively.

13. An apparatus for operating first and second commodity trailer hopper trap doors, comprising:

a support frame extending between a first end and a second end, wherein said support frame comprises a center portion and first and second extensions telescopically connected thereto;

first and second driveshaft assemblies attached to said support frame proximate said first and second ends, respectively, wherein said first and second driveshaft assemblies are configured to be coupled to said first and second commodity trailer hopper trap doors, respectively, and wherein said first driveshaft assembly comprises a first driveshaft and a first drive hub fixedly connected thereto, and wherein said second driveshaft assembly comprises a second driveshaft and a second drive hub fixedly connected thereto;

a motor assembly attached to said support frame, wherein said motor assembly comprises a motor shaft and first and second motor sprockets fixedly connected thereto;

first and second linking mechanisms coupled between said motor assembly and said first and second driveshaft assemblies, respectively;

first and second engagement mechanisms operable to couple said first and second linking mechanisms, respectively, to said first and second driveshaft assemblies, respectively, wherein said first engagement mechanism comprises a first drive sprocket having a first aperture and a first engagement pin for placement within said first aperture, wherein said placed first engagement pin rotates with said first drive sprocket and engages said first drive hub to thereby rotate said first driveshaft assembly; and wherein said second engagement mechanism comprises a second drive sprocket having a second aperture and a second engagement pin for placement within said second aperture, wherein said placed second engagement pin rotates with said second drive sprocket and engages said second drive hub to thereby rotate said second driveshaft assembly; and

wherein said motor assembly is operable to move said first and second linking mechanisms to thereby rotate said first and second driveshaft assemblies, respectively, and thereby operate said first and second commodity trailer hopper trap doors, respectively.

14. The apparatus of claim 13, wherein said first linking mechanism comprises a first chain coupled between said first motor sprocket and said first drive sprocket, and wherein said second linking mechanism comprises a second chain coupled between said second motor sprocket and said second drive sprocket.

15. An apparatus for operating first and second commodity trailer hopper trap doors, comprising:

first and second means for turning first and second commodity trailer trap door operating linkages, respectively;

means for driving said turning means;

means for supporting said turning and driving means; and

means for linking said driving means to said first and second turning means.

16. The apparatus of claim 15, further comprising:

first and second means for engaging said first and second linking means with said first and second turning means, respectively.